



May 2, 1991

Karen A. Boyle
Director of Environmental Programs
HARTZ MOUNTAIN INDUSTRIES, INC.
400 Plaza Drive
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re: **Environmental Data for the Drevici and Railroad Parcels, Independence Harbor,
Edgewater, New Jersey**

Dear Karen:

I have reviewed the analytical data from three rounds of environmental samples collected on the former Drevici and New York, Susquehanna and Western Railroad parcels at Independence Harbor in Edgewater, New Jersey. These laboratory data have been generated from samples collected at Independence Harbor in 1986, 1988, and 1989 by Hartz and its subcontractors and by Carpenter Environmental Services for the Edgewater Municipal Utilities Authority as part of the Waterfront Development Permit for the Edgewater sewer outfall, which has an easement through a portion of the former railroad parcel.

CORTELL has reviewed these analytical data previously for Hartz as part of the environmental evaluation for the Independence Harbor development. In July, 1988, CORTELL submitted a letter to Hartz which evaluated the results of samples collected on the Drevici and railroad parcels in 1986. CORTELL also reviewed new analytical results from samples collected in August 1989 on the Drevici parcel in response to a request for additional samples from NJDEP. In August 1990, CORTELL completed a report in support of the Waterfront Development Permit Application for the Independence Harbor development. That report, entitled Environmental Evaluation, Commercial Development, Independence Harbor, includes an evaluation of all analytical data from samples collected on the former Drevici and railroad parcels within 500 feet of the Hudson River. In addition, that report also evaluates other analytical data from an adjacent parcel located north of the former Drevici and railroad properties. This letter is a supplement to the August 1990 report, and provides a summary of the analytical data on the former Drevici and railroad parcels.

Site Description and History

The two parcels being reviewed are located on the east side of River Road along the Hudson River in Edgewater, New Jersey. The site location is shown on Figure 1, which is attached to this letter. The property is bordered on the south by the Independence Harbor Residential Development, which was formerly the Ford Motor Company Edgewater Assembly Plant. The Hudson River is located east of the site and an industrial and warehouse area is located on the west along both sides of River Road. The former Seatrain parcel is located north of the site, and the Hill's Brothers Coffee Inc. processing facility, which was constructed in the 1940s, is located north of the Seatrain parcel.

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Railroad tracks that extend onto the property were formerly owned and operated by the New York, Susquehanna and Western Railroad, which formerly operated the parcel in the western portion of the site as a railyard and switching yard. In addition, some freight was stored there. The tracks have been abandoned for at least ten years.

The site is located on filled land along the Hudson River. Much of the site was filled between the late 1800s to early 1920s to accommodate development in the area. The source of this fill is not recorded, but may have included rock and debris from construction of the NYS&W tunnel, which crosses through the Palisades just north of the parcel, as well as cinders and waste coal, which were commonly used as fill on railroad parcels. Filling of portions of the Drevici parcel took place between 1953 and 1983, prior to Hartz' taking title to the property. The source of this fill is also unknown.

Soils underlying the fill material were formed in glacial till. The Geologic Map of New Jersey indicates that the site is underlain by bedrock of the Stockton Formation. Groundwater is expected to be encountered approximately five feet below the surface at the same level as the Hudson River. Groundwater is expected to be influenced by the tidal fluctuations of the River.

The eastern portion of the undeveloped site is situated within the 100-year floodplain of the Hudson River. Scrub vegetation was observed in the northern and eastern portions of the site. There are currently no buildings, roadways, or parking areas located on the parcel. No utility service extends to the parcel. Figure 2 is a reproduction of a series of photographs taken at the site in June 1990, showing the site conditions and surrounding area.

A new sewer outfall serving the Edgewater sewage Treatment Plant has recently been constructed through the northern portion of the site, on land formerly owned by the New York, Susquehanna and Western Railroad. The outfall enters the Hudson River approximately 20 feet south of the former Seatrain pier and extends west to River Road where it intercepts the public sewer. The construction of this sewer pipe and outfall was under Waterfront Development Permit #87-1055-1, approved by the New Jersey Department of Environmental Protection (NJDEP) Department of Coastal Resources.

The area in which the site is located has been industrial since the early 1920s when the Edgewater waterfront was the first area of Bergen County to be developed for industry.

The property is currently vacant and is used as a construction equipment staging area. Portions of the site have recently been filled and graded. Several construction trailers, fill piles, and sewer piping were observed adjacent to the Independence Harbor site during a site visit conducted in June 1990. Some piles of construction debris were observed in the area of the former building. The remainder of the site is undeveloped.

The 1979 USGS Central Park, NY-NJ Topographic map shows a building on the Drevici portion of the property. An Edgewater Fire Subcode Official indicated that the building shown on the topographic map was constructed by Drevici between 1979 and 1980 as a pilot plant for cocoa processing. The processing plant was never fully operational and several years later was abandoned due to the decline in the cocoa market.

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A historical review of the site was completed by Raber Associates of South Glastonbury, Connecticut in July 1990. This report concluded that there were no significant historical structures on the site, which had been used as a railyard.

Hartz Mountain Industries, Inc. purchased the Drevici and railroad parcels in 1986. The Drevici and railroad parcels were acquired at the same time as the Ford parcel to the south, which has subsequently been developed for residential use.

Environmental Sampling and Analysis

CORTELL developed a sampling and analysis program for the Drevici and New York, Susquehanna and Western Railroad parcels in August 1986. The field work and laboratory analyses were conducted by International Technology Corporation of Edison, New Jersey under contract to Hartz. This work was done in conjunction with the site assessment being conducted for the Ford Motor Company Assembly Plant site located immediately south of the Drevici parcel. Additional samples were collected on the Drevici parcel in 1989 in response to a request from NJDEP for additional data on soil quality.

In 1988, the Borough of Edgewater conducted sampling and analysis of soils on a portion of the Seatrain parcel as part of site assessment studies for installation of a new sewer outfall to the Hudson River. These samples were collected by Carpenter Environmental Associates, Inc. of Northvale, New Jersey, and were analyzed by AnalytiKEM Inc. of Cherry Hill, New Jersey. These data were provided to Hartz for review.

Metals in Soils

Soil samples were analyzed for metals in 1986, 1988, and 1989. The results of the metals analyses are provided in Tables 1, 2, and 3, which are appended to this letter. The sample collection locations are shown on Figure 3.

Table 1 tabulates the results of priority pollutant metals analysis of the samples collected in August 1986 and reported in September 1986. They include samples collected from soil borings, denoted as B or RR, and from test pits, indicated by TP. The test pit samples were composited, with one composite sample analyzed from soils collected from three test pits. This procedure was accepted by NJDEP in 1986. A composite was submitted to represent shallow (new) and deeper (historic) fills from each test pit grouping.

The concentrations of metals in the onsite soils, including new and historic fills, is very low, and there is no evidence of contamination by heavy metals in the Drevici soils that were analyzed. Concentrations of toxic metals, particularly arsenic, cadmium, chromium, and mercury, are well within expected levels for urban sites and are all below NJDEP action levels for metals in soils, with the exception of the old fill from the TP-1,2 and 3 composite, which contained arsenic slightly above the NJDEP action level, but not at a level that will present a threat to human health or to the environment.

Lead concentrations in the soils range from less than 100 ppm, which is considered background for nonurban areas, to 400 ppm in the deeper fill from B-5. The NJDEP action level for lead is 250 ppm for residential sites and 1,000 ppm for urban sites. This sample also contains zinc at 460 ppm. The action level for zinc in urban, industrial soils

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is 1,000 ppm. These concentrations should be considered background for urban fill. There is no evidence of discharge or disposal of metal-containing waste on the site, and the source of the lead and zinc in isolated areas of the parcel appears to be the fill material used.

Table 2 provides the results of priority pollutant metals analysis on a sample collected and analyzed in August 1989. Four other borings were placed on the site at this time pursuant to an NJDEP request, but NJDEP only requested metals analysis from this sample. As indicated on Table 2, the shallow sample was subjected to duplicate analysis for quality control. All levels of metals in both B-8 samples are well below concentrations considered normal for urban background.

Table 3 tabulates the results of data provided by the Borough of Edgewater. These samples were collected for the Waterfront Development Permit Application for a sewer outfall constructed through a portion of the former railroad parcel. Cadmium is slightly elevated in almost all of the samples; the expected level of cadmium in urban soils is less than 3 parts per million and the average in these samples is approximately 6 ppm. All other metals are well below expected urban background and are also below NJDEP guidance levels for urban soils. The cadmium concentrations in these samples may be a reflection of the type of fill used in this area. There is no evidence of any source of contamination. NJDEP reviewed these data as part of the Waterfront Development Permit process, and did not require further evaluation or any corrective action.

Organics in Soils

Tables 4, 5, 6, and 7 tabulate results of several analysis of the site soils for organic compounds.

Table 4 presents results of analysis of the Drevici and railroad parcel soils in 1986. All samples were analyzed for total petroleum hydrocarbons, and the railroad parcel soils were also analyzed for polychlorinated biphenyls (PCBs) and creosote. As noted in the table, no PCBs or creosote was detected.

The soil samples contained low concentrations of total petroleum hydrocarbons. The highest concentration found was 1,000 ppm in the new fill from the TP-7, 8, and 9 composite. All other samples contained less than 520 ppm total petroleum hydrocarbons, which indicates no evidence of spills or disposal of oils on the site.

The NJDEP action level for petroleum hydrocarbons is 100 ppm, although NJDEP often allows higher levels when there is no evidence of active leaking of oils or other unstable disposal operation. NJDEP normally allows up to 1,000 ppm total petroleum hydrocarbons in urban soils when there is no evidence of a spill and no potential for the oil to contaminate water supplies or groundwater. NJDEP generally requires additional testing when petroleum hydrocarbons in fill exceed 1,000 ppm in order to assess potential sources of the petroleum product. This includes analysis of soils for base/neutral extractable organics to determine if there are any polynuclear aromatic hydrocarbons (PAH) present. The PAH compounds are present in coal, heavy oils, coal tar, creosote, and other potentially toxic residues.

NJDEP reviewed these petroleum hydrocarbon results, and requested that soil borings (B-6, B-7, and B-9) be installed in the areas of test pits 7, 8, and 9 in order to determine whether soils in either of these areas was contaminated with oil. In addition, a fourth boring was installed at B-8. These results are provided in Table 5, and show slightly elevated total petroleum hydrocarbons in the 4- to 6-foot samples from B-7 (1,100 ppm) and B-9 (2,600 ppm). The source of the petroleum product on this site is most likely the fill, as the highest concentrations were found in the new fill. There was no evidence of oil spills on the site, and no history of underground or above ground storage of fuel oils, although coal was most likely stored on the site.

Both samples were subsequently analyzed for base/neutral extractable organics, and only one compound, pyrene, was identified at 6.2 parts per million in B-9. The B-7 sample contained no detectable base/neutrals. These results are shown in Table 6.

The pyrene concentration in the B-9 sample is below the 10 ppm action level, which is also accepted as urban background. The results of the base/neutral analysis indicates that the petroleum products detected in the site soils do not originate from coal or coal tar.

There is no pattern of petroleum hydrocarbon contamination on the Drevici parcel. The likely source is the fill brought to the parcel, either for use as site fill or as stockpiles, by the Drevici and Son Corporation, which used the site as a construction staging area in the 1970s and early 1980s. This portion of the site was reported to have been filled extensively during this time, particularly in the area within the bulkhead line which was the focus of this investigation. It is likely that some of this fill contained oils, asphalt, and similar materials, and that these are contributing to the petroleum hydrocarbon content of the fill soils.

The concentrations of petroleum hydrocarbons found on the Drevici parcel will not present a threat to human health or to the environment. The highest concentrations lie 4 to 6 feet below the surface. The petroleum compounds found are not derived from coal tar and will not result in direct contact injury to persons who may contact soil during site construction.

Soil sampling and analysis along the alignment of the Edgewater wastewater outfall was conducted by Carpenter Environmental Associates, Inc. of Northvale, New Jersey in July 1988 under Waterfront Development Permit #87-1055-1. The samples were analyzed by AnalytiKEM Inc. of Cherry Hill, New Jersey for petroleum hydrocarbons and the results are presented in Table 7.

All samples contained less than 500 ppm total petroleum hydrocarbons. In its review for the Waterfront Development Permit, NJDEP did not require additional soil samples or analysis for base/neutral extractable organics because no samples contained greater than 1,000 ppm total petroleum hydrocarbons. As with the samples on the Drevici parcel, the low concentrations of petroleum hydrocarbons most likely originate in the fill.

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Summary and Evaluation

The former Drevici and railroad parcels have been evaluated thoroughly through three soil sampling and analysis programs conducted between 1986 and 1989. There has been no evidence of soil contamination on either parcel. The analytical data for both sites have been reviewed by NJDEP and have been accepted to show that there is no evidence of discharge or disposal of chemical waste or other hazardous materials on the Independence Harbor properties. Slightly elevated levels of petroleum hydrocarbons were detected in a composite sample of fill collected in 1986. The area from which the composite was collected was re-evaluated in 1989 pursuant to NJDEP request, and the findings of the supplemental sampling and analysis program indicated that the petroleum hydrocarbons in the area did not result from coal tars, ash, or heavy oil. NJDEP has not required any additional action on this site.

The results from the soil analysis are generally well within the ranges expected for natural soils. Levels of metals in the soils on both parcels are, for the most part, low, and levels of toxic metals, particularly lead, chromium, and arsenic, are very low. There is slightly elevated cadmium in soils collected on a portion of the former railroad parcel by the Borough of Edgewater along a sewer easement, but the levels found appear to reflect a uniform condition of soils in that area, and are probably related to the source of fill.

There is no evidence of contamination by heavy metals or organics on the former Drevici and railroad parcels. The soil conditions on these parcels will not restrict any proposed use of the site, and it should be considered suitable for residential or commercial development.

Please call me if you have any additional questions.

Sincerely,

JASON M. CORTELL and ASSOCIATES INC.



Anne Marie C. Desmarais
Vice President
Environmental Risk Management

attachments

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